MARINE CORPS

WARFIGHTING LABORATORY

NETWORK SERVICES

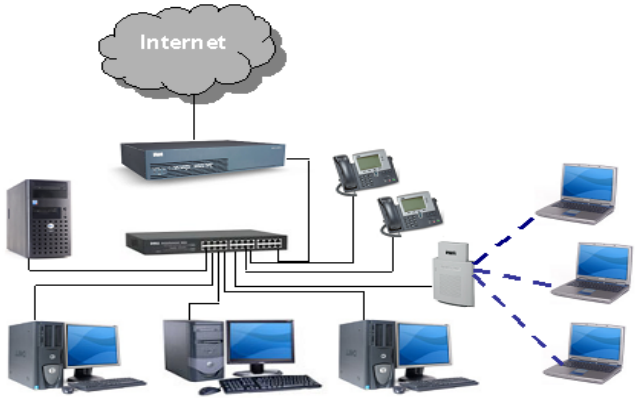
fact sheet

Network Services seeks to provide a cost-effective solution to improve tactical digital communications quality and quantity by inserting hardware and software suites at all tactical echelons. The incorporation of technologies will reduce the need for separate distinct networks (i.e., voice and data, wireless extensions) by converging them into a single multi-service network, while providing enhancements to Class of Service (CoS) and Quality of Service (QoS). It will support critical traffic applications in a converged network environment for interoperability with emerging technologies (i.e., VoIP (Voice over Internet Protocol), Internet Protocol (IP) version 6, Wireless LAN technologies).

Background: As data requirements increase for combat units, management of bandwidth resources has become a critical issue. Increased network traffic are straining the capacity of communication lines. To keep pace, combat units in both the Marine Corps and in the joint environment, are looking for current technologies and methodologies to support and manage traffic growth of network services within the tactical digital network environment.

Description: Network services is the convergence of telephony and data networks into a single multi-service network, implementing both wired and wireless technologies in a tactical environment. With the advances in wireless LAN (Local Area Networks) technology, QoS and CoS, this system is capable of supporting multiple applications; including VoIP, on various platforms in tactical scenarios. IP Telephony utilizes the VoIP standards to create a telephony system where higher-level features such as advanced call routing, voice mail, contact centers, etc., can be utilized. A wireless LAN (WLAN) is a flexible data communication system implemented as an extension to, or alternative for, a wired LAN within a building or campus. Using electromagnetic waves, WLANs transmit and receive data over the air, minimizing the need for wired connections. Thus, WLANs combine data connectivity with user mobility and, through simplified configuration, enable movable LANs.

Proven benefits of Network Services:
- Integrated VoIP during KB(X) providing substantial cost savings on long distance voice charges
- VoIP provided reliable integrated voice communications over existing data network (garrison and deployed environments).
- Enhanced network relocation/reconfigurations during deployments utilizing proprietary wireless technologies (i.e., Vivato, Redline) that streamlined network setup times, resulting in minimized rewiring and use of cabling, reducing the overall footprint for transport services.



- Tested wireless security concept utilizing FIPS 140-2 certified proprietary hardware (i.e., ReefEdge) in a tactical mobile network environment.
- Successfully deployed seamless roaming of applications over a wireless network combining various proprietary technologies (i.e., ReefEdge).

Deliverable Product:
- Tactical Voice over Internet Protocol - UNS #01011UA
- Solution Planning Directive (SPD) signed by CG MCCDC directing MCWL, in coordination with Headquarters Marine Corps C4, to further assess VoIP technology through R&D.
- IATO awarded Sept 03 for MCWL to be the official testing agency for VoIP integration to the DISN.
- MOA between DISA and MCWL to conduct joint QoS/CoS testing for converged networks.
- 26 February 04 HQMC C4 assigned taskings for the establishment of a test network for evaluating IPv6 interoperability and support to be set up using the Defense Research and Engineering Network (DREN) for transport. MCNOSC (Marine Corps Network Operations and Security Command) is organizing a collaborative effort involving MCNOSC, MCWL and MCTSSA to provide a test network for IPv6. This network will support testing of IPv6 interfaces for Program Managers and network engineers.

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